

AUSTRALIAN PATENT OFFICE

WRITTEN OPINION

Applicant's or agent's file reference LPN/LWC/NJ/K.2006004814		Date of mailing <i>day/month/year</i> 28 JUN 2007
REPLY DUE within FIVE MONTHS of the date of the Registrar's letter enclosing the written opinion		
Application No. SG 200603679-2	Application Filing Date (<i>day/month/year</i>) 3 December 2004	Priority Date (<i>day/month/year</i>) 3 December 2003
International Patent Classification (IPC) (as indicated in the search report) Int. Cl. H01L 21/027 (2006.01) G02B 1/10 (2006.01) G03F 7/20 (2006.01) Action Date: 20 June 2007		
Applicant NIKON CORPORATION (JP)		

1. This First written opinion consists of a total of 6 sheets.
2. This opinion contains indications relating to the following items:

I	<input checked="" type="checkbox"/>	Basis of the opinion
II	<input type="checkbox"/>	Priority
III	<input type="checkbox"/>	Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
IV	<input checked="" type="checkbox"/>	Lack of unity of invention
V	<input checked="" type="checkbox"/>	Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
VI	<input type="checkbox"/>	Certain documents cited
VII	<input type="checkbox"/>	Certain defects in the application
VIII	<input checked="" type="checkbox"/>	Certain observations on the application
3. The search report used was issued by the Australian Patent Office, and the date of completion is: 20 June 2007
4. If no reply is filed, the examination report will be established on the basis of this opinion.
5. The date by which the examination report will be established is: 3 September 2008

Name and mailing address AUSTRALIAN PATENT OFFICE PO BOX 200, WODEN ACT 2606, AUSTRALIA E-mail address: pct@ipaustalia.gov.au Facsimile no. 61 2 62853929	Authorized Officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">RAJEEV DESHMUKH</div>
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I. Basis of the opinion

1. This opinion has been drawn on the basis of:

- ☒ the application as originally filed.
- ☐ the description, pages , as originally filed,
 pages , filed with the request,
 pages , received on with the letter of
- ☐ the claims, pages , as originally filed,
 pages , filed with the request,
 pages , received on with the letter of
- ☐ the drawings, sheets/fig. , as originally filed,
 sheets/fig. , filed with the request,
 sheets/fig. , received on with the letter of
- ☐ the sequence listing part of the description:
 pages , as originally filed
 pages , filed with the demand
 pages , received on with the letter of

2. The amendments have resulted in the cancellation of: pages:
 sheets of drawings/figures No :

3. ☐ This opinion has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box.

4. Additional observations, if necessary:

IV. Lack of unity of invention

1. This Office found multiple invention in this application, as follows:

There are multiple inventions in this application, as follows:

The application does not comply with the requirements of unity of invention because it does not relate to one invention or to a group of inventions so linked as to form a single inventive concept. In coming to this conclusion this Office has found there are two inventions:

1. Claims 1-51 are directed to a liquid immersion exposure device for transferring a pattern onto the substrate by using a projection optical system. It is considered that the liquid immersion exposure for a substrate comprises a first "special technical feature".

2. Claims 52-56 are directed to the structure of an optical part. It is considered that the optical part comprises a second separate "special technical feature".

Since the abovementioned groups of claims do not share either of the technical features identified, a "technical relationship" between the inventions, does not exist. Accordingly, the application does not relate to one invention or to a single inventive concept. Since, the search for the second invention was done with a negligible additional effort over that for the first one; all claims 1-56 were examined in establishing this report.

2. Consequently, the following parts of the application were the subject of examination in establishing this report:

- ☒ all parts.
- ☐ the parts relating to claims Nos.

V. Reasoned statement with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims 1-51	YES
	Claims 52-56	NO
Inventive step (IS)	Claims 1-51	YES
	Claims 52-56	NO
Industrial applicability (IA)	Claims 1-56	YES
	Claims	NO

2. Citations and explanations

The following document identified in the ISR have been considered for the purpose of this opinion:

D1: JP 10-303114 A (NIKON CORP.) 13 November 1998

D2: JP 11-176727 A (NIKON CORP.) 02 July 1999.

D3: US 2003/0139620 A1 (Yamaguchi et al.) 24 July 2003

NOVELTY (N):

D1 & D2 disclose an exposure device which exposes a substrate by radiating an exposure light beam onto the substrate through a liquid. The exposure device comprises a projection optical system for projecting an image onto the substrate and a substrate table for holding the substrate. D1 & D2 fail to disclose that a member having a liquid repellent surface is provided exchangeably on the substrate table. Hence, claims 1-51 are novel.

D3 discloses an optical member (paragraph 0056). The optical member comprises a part body (item 1, paragraph 0069) which has a light irradiated surface (paragraph 0078), an antireflection layer including a surface layer in the form of a silicon dioxide base inorganic layer and an antifouling layer (or water-repellent layer) on the surface layer (paragraphs 0021 and 0027). The antifouling layer (or water-repellent layer) is made of fluororesin (paragraphs 0002). Thus, all essential features of claims 52 & 53 are disclosed in D3.

D3 also discloses an adhesive layer (item 2, paragraphs 0080-0081) may be formed on the substrate in a conventional manner (paragraph 0083). Hydrogen fluoride is a well known chemical for surface etching. Hence, claims 54-56 are not novel.

VIII. Certain observations on the application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

Claim 9 is not fairly based.

In claim 9, the essential feature "liquid-repellent member" is not disclosed. Hence, there is inconsistency between the description and proposed claim 9, rendering claim 9 not fairly based.

- ☒ The claimed invention is patentable according to Section 13(2); or
- ☐ The claimed invention is unpatentable according to Section 13(2) because:

- ☐ This application is a Divisional application filed under Section 26(6) of the Patents Act and discloses no additional matter extending beyond that disclosed in the Parent application.

Supplemental Box

(To be used when the space in any of Boxes I to VIII is not sufficient)

Continuation of Box [No.]:

INVENTIVE STEP (IS)

The subject matter of claims 52-56 is also obvious and lacks an inventive step for the same reason as stated above.

The subject matter of claims 1-51, is neither known nor rendered obvious by the prior art documents D1 & D2. Hence, claims 1-51 are inventive.

INDUSTRIAL APPLICABILITY (IA)

The invention defined in claims 1-56 meets the requirements of Industrial Applicability because it can be made by, or used in, Industry.